

In the Claims

Claims 1-53 (Canceled).

54. (Original): A semiconductor processing reactive precursor valve assembly comprising:

a valve body having at least one inlet and at least two outlets, the inlet being configured for connection with a reactive precursor source, a first of the outlets being configured for connection with a feed stream to a semiconductor substrate processor chamber, a second of the outlets being configured for diverting precursor flow away from said chamber;

the valve body comprising a first fluid passageway therein extending between the inlet and the first outlet, the valve body comprising a second fluid passageway extending between the first fluid passageway and the second outlet; and

a control plate mounted for at least limited rotation within the body proximate the first and second passageways, the plate including an arcuate region at least a portion of which is received within the first passageway, the arcuate region including a first region having an opening extending through the plate positionable into a first selected radial orientation to provide the inlet and the first outlet in fluid communication with one another through the first passageway while restricting flow to the second passageway, the arcuate region including a second region positionable into the first radial orientation to provide the inlet and second outlet in fluid communication

through the first and second passageways while restricting flow to the first outlet.

55. (Original): The assembly of claim 54 wherein the first passageway extends in a straight axial line through the valve body from the inlet to the first outlet.

56. (Original): The assembly of claim 54 wherein the second passageway extends in a straight axial line through the valve body from the first passageway to the second outlet.

57. (Original): The assembly of claim 54 wherein,
the first passageway extends in a first straight axial line through the valve body from the inlet to the first outlet; and
the second passageway extends in a second straight axial line through the valve body from the first passageway to the second outlet.

58. (Original): The assembly of claim 57 wherein the first and second axial lines are perpendicular to one another.

59. (Original): The assembly of claim 54 wherein the control plate is circular.

60. (Original): The assembly of claim 54 wherein the control plate is mounted for 360° rotation within the body.

61. (Original): The assembly of claim 54 wherein the arcuate region is an annulus including a plurality of alternating of said first and second regions.

62. (Original): The assembly of claim 54 wherein,
the control plate is mounted for 360° rotation within the body; and
the arcuate region is an annulus including a plurality of alternating of said first and second regions.

63. (Original): The assembly of claim 62 comprising at least three of said first regions and at least three of said second regions.

64. (Original): The assembly of claim 54 wherein the first region is configured to block substantially all fluid flow to the second passageway when in the first selected radial orientation.

65. (Original): The assembly of claim 54 wherein the second region is configured to block substantially all fluid flow to the first outlet when in the second selected radial orientation.

66. (Original): The assembly of claim 54 wherein the first region plate opening has a maximum cross section which is at least as large as that of the first passageway proximate the control plate.

67. (Original): The assembly of claim 54 wherein the first region plate opening has a cross sectional shape which is the same as that of the first passageway proximate the control plate.

68. (Original): The assembly of claim 54 wherein the first region plate opening has a cross sectional shape which is different from that of the first passageway proximate the control plate.

69. (Original): The assembly of claim 54 wherein the first passageway extends in a straight axial line through the valve body from the inlet to the first outlet, the control plate being mounted for rotation about an axis which is generally parallel with the straight axial line.

70. (Original): The assembly of claim 54 wherein the second region does not include a hole extending through the plate.

71. (Original): The assembly of claim 54 wherein the second region comprises an arcuate surface configured to direct fluid flow 90° from a flow direction to the plate.

72. (Original): The assembly of claim 54 wherein the second region comprises:

an arcuate surface configured to direct fluid flow 90° from a flow direction to the plate; and

a flat surface connected with the arcuate surface which extends to the second passageway when in the first radial position.

73. (Original): A semiconductor processing reactive precursor valve assembly comprising:

a valve body having at least one inlet and at least two outlets, the inlet being configured for connection with a reactive precursor source, a first of the outlets being configured for connection with a feed stream to a semiconductor substrate processor chamber, a second of the outlets being configured for diverting precursor flow away from said chamber;

the valve body comprising a first fluid passageway therein extending between the inlet and the first outlet in a first straight axial line, the valve body comprising a second fluid passageway extending between the first fluid passageway and the second outlet in a second straight axial line which is perpendicular to the first straight axial line; and

a circular control plate mounted for at least limited rotation within the body proximate the first and second passageways about an axis of rotation which is generally parallel with the first straight axial line, the plate including an arcuate region at least a portion of which is received within the first passageway, the arcuate region including a first region having an opening extending through the plate positionable into a first selected radial orientation to provide the inlet and the first outlet in fluid communication with one another through the first passageway while blocking substantially all fluid flow to the second passageway, the first region plate opening having a maximum cross section which is at least as large as that of the first passageway proximate the control plate, the arcuate region including a second region positionable into the first radial orientation to provide the inlet

and the second outlet in fluid communication through the first and second passageway while blocking substantially all flow to the first outlet, the second region comprising an arcuate surface configured to direct fluid flow 90° from a flow direction to the plate, the second region comprising a flat surface connected with the arcuate surface which extends to the second passageway when in the first radial position.

74. (Original): The assembly of claim 73 wherein the control plate is mounted for 360° rotation within the body.

75. (Original): The assembly of claim 73 wherein the arcuate region is an annulus including a plurality of alternating of said first and second regions.

76. (Original): The assembly of claim 73 wherein,
the control plate is mounted for 360° rotation within the body; and
the arcuate region is an annulus including a plurality of alternating of said first and second regions.

77. (Original): The assembly of claim 76 comprising at least three of said first regions and at least three of said second regions.

78. (Original): A semiconductor processing reactive precursor valve assembly comprising:

a valve body having at least one inlet and at least two outlets, the inlet being configured for connection with a reactive precursor source, a first of the outlets being configured for connection with a feed stream to a semiconductor substrate processor chamber, a second of the outlets being configured for diverting precursor flow away from said chamber;

the valve body comprising a first fluid passageway therein extending between the inlet and the first outlet, the valve body comprising a second fluid passageway extending between the first fluid passageway and the second outlet; and

a generally cylindrical mass mounted for at least limited rotation within the body proximate the first and second passageways, the mass including an arcuate region at least a portion of which is received within the first passageway, the arcuate region including a first region having an opening extending through the mass positionable into a first selected radial orientation to provide the inlet and the first outlet in fluid communication with one another through the first passageway while restricting flow to the second passageway, the arcuate region including a second region positionable into the first radial orientation to provide the inlet and second outlet in fluid communication through the first and second passageways while restricting flow to the first outlet.

79. (Original): The assembly of claim 78 wherein the generally cylindrical mass is mounted for 360° rotation within the body.

Claims 80-93 (Canceled).